

B NIXIE® TUBE DRIVER

TYPE
BIP-8501P



The BIP-8500P NIXIE tube driver series provides decimal readout from low-level dc input. The modules consist of ten low-leakage, high break-down NPN silicon planar transistors connected in common emitter configuration. The ten base leads are used as the input terminals. Type BIP-8501P is designed to drive the type 8422 standard rectangular NIXIE tube. The modules feature a socket pack construction; i.e., socket and driver are an integral unit. Height and width dimensions are those of the socket itself, permitting minimum center-to-center spacing of multi-digit displays. Bezel assemblies for multi-tube displays are described in Bulletin 1020.

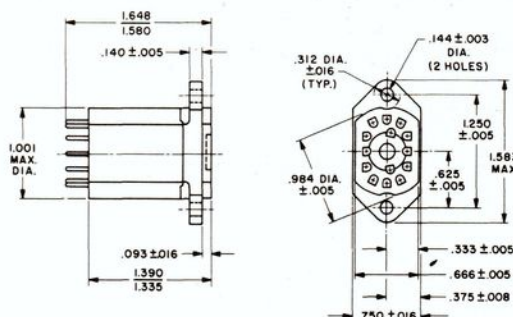


Figure 1. OUTLINE DRAWING

ELECTRICAL SPECIFICATIONS

INPUT SIGNAL	10-line
Turn "On" Condition	
Current into each base	0.25 ma min.
	5.0 ma max.
Turn "Off" condition	0V min. (Notes 2 & 4)
	-5.0V max.

POWER REQUIREMENTS	
NIXIE tube voltage	170 VDC $\pm$ 2V (Note 1)
NIXIE tube current	3.0 ma max.

TRANSISTOR PARAMETERS	
V_{BE} (saturation voltage)	0.7V nom.
V_{EB} (base-emitter breakdown) ...	5.0V min.

MECHANICAL CHARACTERISTICS

Connector	12 pin rectangular base
Receptacle	SK-169 (Fig. 4) (Note 3)
Mounting Diagram	Figure 5, Note 5
Outline Drawing	Figure 1
Terminal Connections	Table 1

Weight	1 oz. nom.
Temperature	
Operating	-20°C to +85°C
Non-operating	-55°C to +85°C
Basing Diagram	Figure 3

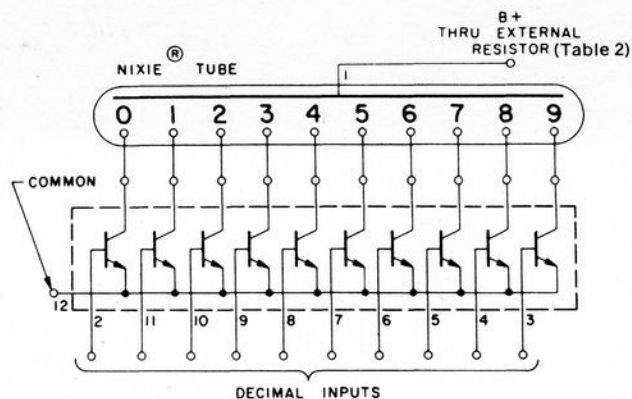


Figure 2. BIP-8501P SCHEMATIC

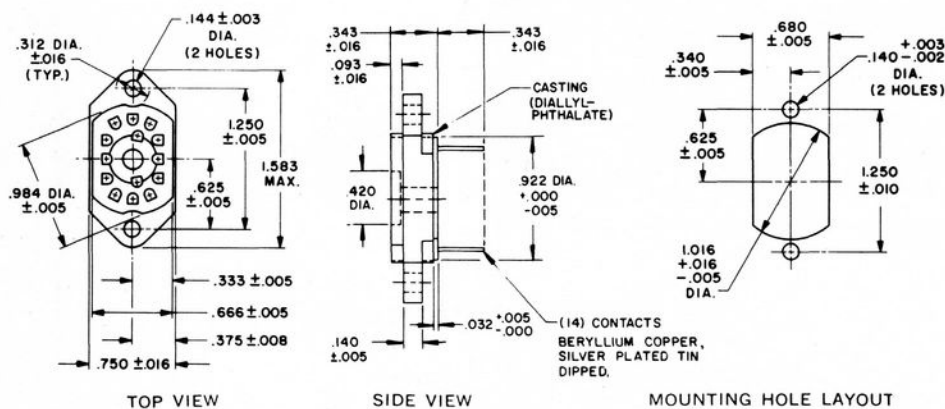
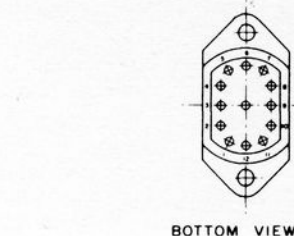


Figure 4. RECEPTACLE SK-169 (Note 3)



NOTE:
A polarizing pin is added to the connector.
This pin is not internally connected and
mates with terminal 14 of receptacle SK-169.

Figure 3. BASING DIAGRAM

Pin Number	BIP-8501P
1	Anode*
2	Numeral 0
3	Numeral 9
4	Numeral 8
5	Numeral 7
6	Numeral 6
7	Numeral 5
8	Numeral 4
9	Numeral 3
10	Numeral 2
11	Numeral 1
12	Common

* See Note 1

Table 1. TERMINAL CONNECTIONS

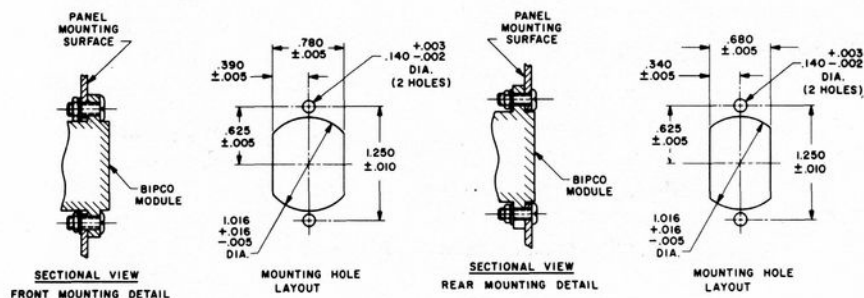


Figure 5. MOUNTING CONFIGURATIONS (Note 5)

	Supply Voltage			
ANODE	170V	200V	250V	300V
RESISTOR	8.2K	22K	47K	68K

Table 2. NIXIE TUBE ANODE RESISTOR VALUES

NOTES

1. B+ input for the BIP-8501P must be applied through an external anode resistor (Table 2) to Pin 1.
2. During the "off" condition, NIXIE tube leakage currents as high as 300 microamperes may be expected to flow out of the base terminals to the off voltage source. This may alter the base voltage if a resistor is present in the base circuit. In this case, base voltage must still remain within the limits specified.
3. Receptacle SK-169 and NIXIE tube are not part of the module and must be ordered separately.
4. All terminal voltages are referenced to the common emitter voltage. For purposes of this specification, the common emitter terminal is assumed to be at ground (zero) potential.
5. Modules may be mounted either in front of, or behind panel (Figure 5). Front mounting should be employed only when there is no back lighting. Rear mounting may be used whether or not back lighting is present. Following this rule will eliminate light showing through panel.